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ABSTRACT

The effects of concern about price of college and student aptitude for college upon the tendencies of parents and students to change their preference for private colleges to public colleges at the application stage of the college selection process were examined through two surveys conducted by Carleton College, Northfield, Minnesota. In one survey, questionnaires were mailed to 2,000 parents of high school seniors whose combined verbal and mathematics Preliminary Scholastic Aptitude Test (PSAT) scores were above 100. Equal numbers of parents were selected in each of six metropolitan areas: San Francisco/Oakland, Denver/Boulder, Dallas/Fort Worth, Washington, DC/Baltimore, Chicago, and Minneapolis/St. Paul. A nearly identical questionnaire was sent to 3,000 high school seniors meeting the same PSAT criterion in those cities. The questionnaires were mailed by the College Board, and Carleton College was not identified as a research participant. Usable responses were received from 47 percent of the parents and 49 percent of the students. Based on the findings, it is concluded that price is an important determinant of where people choose to apply for college admission and that college aptitude does not counter that influence. In addition, the results indicate that substantial monetary savings are achieved by those people who move from the private to the public higher education sector. Discrepancies between the present findings and those of a similar study conducted by Spies (1978) are considered. A bibliography is appended. (SW)

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# The Effect of Concern About Price on Application Choices Between Private and Public Higher Education Institutions

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Mary Corcoran
University of Minnesota
(Editor, AIR Forum Publications)

## Abstract

While higher education researchers agree generally that price differences influence enrollment choices between private and public postsecondary educational institutions, relatively little is known about the influence of price upon application decisions concerning these two kinds of schools. Data from two large surveys (one for high school students and one for parents of high school students) conducted by Carleton College were studied with respect to this issue. In particular, the effects of concern about price and college aptitude upon the tendencies of parents and students to move from private to public schools at the application stage of the college selection process were examined. Our general findings lead to the conclusion that price is an important determinant of where people choose to apply for college admission and that college aptitude does not counter that influence. In addition, the results indicate that substantial monetary savings are achieved by those people who move from the private to the public higher education sector.

# The Effect of Concern About Price on Choices Between Private and Public Higher Education Institutions[1]

Among the many important questions being asked today by people interested in higher education and the uncertain future of today's colleges and universities, are several having to do with financial considerations and their effects upon the market for higher education. What is the role of price in decisions to apply to particular colleges or universities? How does price, or concern about price, influence the judgment of parents as they advise their children about colleges and universities? Are some students who are interested in private education discouraged from applying to those schools because of financial concerns, or do these concerns act primarily upon the decision to accept admission at a private or a public school?

The higher education literature contains considerable discussion of these and related questions. In a paper concerned especially with factors influencing the outcome of the impending struggle for students between private and public institutions, McPherson (1978) reported that all of the studies he reviewed agree that increases in price lower the probability of college attendance for some people, although the effect is not large. A second effect of price, according to McPherson, is to influence choices between schools in the public and private sectors of the market. His analysis suggests that relatively low prices in the public sector are responsible for moving people from private to

public school choices. That is, when prices in the public sector are kept low enough some people who would otherwise attend private colleges and universities will enroll at public institutions. An additional point in this analysis is that although high-income students are less sensitive to price when deciding whether or not to attend college, they are somewhat sensitive to price in deciding where to go to college. Thus, a substantial price difference between the public and private sectors may even attract some upper-income students away from private schools. More recent reports have confirmed the findings that price differences affect the college choice process generally (Chapman, 1979) and choices between public and private schools in particular (Tierney, 1979).

While the evidence concerning the effects of price on the college choice process following college admission is substantial and consistent, the picture with respect to the effects of price upon the application decision process is less clear. According to the analyses of Spies (1973, 1978), which are relevant only to the most selective private colleges and high ability students, financial considerations have relatively small effects upon application decisions. Rather, educational considerations such as the academic reputation of the institution and the ability of the prospective applicant are said to be the major factors influencing decisions to apply to particular colleges. Conclusions such as these are undoubtedly very comforting to private institutions of the most selective variety because they suggest that these schools

should preserve and strengthen their academic programs during the coming times of decreasing numbers of eighteen-year-olds and increasing financial constraints. If the conclusions offered by Spies are correct, then extensive cost cutting to minimize price increases can be avoided by some private institutions even while competition for qualified students is increasing.

Obviously, these two lines of research are not entirely consistent regarding the kinds of price policies they suggest for private colleges. On the one hand, price differences appear to influence the decision process after admission has been offered, and conservative pricing policies may be most appropriate. Yet, if application decisions are not affected, one might be tempted to raise prices less conservatively and combat the influence of price on the acceptance decision by other means. For example, a school might distribute an attractive brochure for admitted students, emphasizing that the school is of high quality and that the student will be receiving exceptional value for his or her dollar, in order to offset the usual effect of price on this decision. In any case, the need for additional data and further analysis pertaining to the effect of price on the application process is certainly present. In part, the market research project described below represents an attempt to meet this need.

Project Background

With a grant from The Robert Sterling Clark Foundation and the assistance of The College Board, Carleton College conducted two large surveys. In one survey, questionnaires were mailed to 2000 parents of high school seniors whose combined verbal and mathematics PSAT scores were above 100. Equal numbers of parents were selected in each of six metropolitan areas: San Francisco/Oakland, Denver/Boulder, Dallas/Ft. Worth, Washington, D.C./Baltimore, Chicago, and Minneapolis/St. Paul. A nearly identical questionnaire was sent to 3000 high school seniors meeting the same PSAT criterion in those cities. The questionnaires were mailed by The College Board, and Carleton College was not identified as a participant in the research. Usable responses were received from 47 per cent of the parents and 49 per cent of the students.

Within the confines of this research we were able to look at the influence of concern about price and numerous other variables upon the college choice behavior of people who clearly recognize and desire the kind of quality education offered by private institutions.[2] The following item was designed to identify the college and university preferences of parents and students:

> Considering campus atmosphere and academic quality, what colleges or universities do you think present the best opportunities for students with high academic potential? (Respondents could list up to four institutions.)

On the basis of the private or public status of the schools listed as "best", people who appeared to prefer or be interested exclusively in private schools were identified.[3] The actual choice behavior of the parents and students was identified by examining their responses to the following items.

Parents' survey:

> Please write the names of colleges or universities which have been suggested to your child. Start the list with the school YOU would most like your child to attend. (Parents could list up to six schools.)

Students' survey:

> Now list all the institutions to which you have applied or to which you think you probably will apply. Please rank them according to your preference, beginning with the one you would most like to attend. If you applied to an institution for "early decision" enter it as first choice, even if you were not accepted. (Students could list up to four schools.)

The public or private status of the "choice" schools was used to identify two subgroups among those people whose "best" list was made up entirely of private schools. One of the subgroups contained people who listed only privates as "best" and as "choice". The other subgroup consisted of individuals who had listed all private schools as "best" but who included one or more public schools when listing their choices. The two subgroups were

labeled "stayers" and "movers", respectively. The terms were selected to describe whether or not people exhibited mobility in their two sets of schools. "Movers" may be said to have moved closer to the public sector when asked about their "choice" schools.

Given the identification of these two distinct subgroups of respondents within each survey sample, the next step in our analysis was to determine whether concern about price has an effect on whether parents and students are movers. That is, is the decision to apply to private institutions when they are preferred one that is influenced strongly by price concerns? Our principal findings are that, in general, price concerns are important determinants of college choice behavior and that college aptitude interacts with price concerns to influence application decisions.

Parents Results

Stayers and movers make up 18 and 24 per cent of the returns, respectively. (The rest had one or more public schools in the group of schools named as "best".) For parents who prefer private schools the probability of staying with the private sector varies from city to city. Parents of this kind in Washington, D.C. have the highest probability of being stayers, while parents in Chicago are least likely to respond that way. Percentages of stayers for all six cities are shown in Table 1.

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Insert Table 1 about here

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The results shown in Table 2 indicate that concern about price is a major determinant of parent's college choice behavior. The probability that parents stay with private schools decreases rapidly as the importance of price increases. Only 34 per cent of parents whose concerns about price are high can be classified as stayers, while 52 per cent are stayers when price concerns are low or medium.

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Insert Table 2 about here

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The effect of the college aptitude of their high school senior upon the choice behavior of parents, seen in Table 3, is negligible. When the means of the mathematics and verbal PSAT

scores of students are high (i.e., greater than 57), parents appear more inclined to stay with private schools, but the probability of staying is only 5 per cent greater than when the PSAT's are lower.

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Insert Table 3 about here

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As shown in Table 4, however, concern about price and the college aptitude of the son or daughter interact. When PSAT scores are held constant (look across the rows), the probability of staying decreases with increases in concern about price. However, the impact of concern about price, the size of the difference in the probability of staying when concern for price is low versus when it is high, is related to PSAT scores. For higher PSAT scores, the size of that difference is greater. Although parents are more likely to be stayers when the child has high PSAT scores and concern for price is low or medium, the likelihood of staying when PSAT scores are high decreases when concern for price is high. The effect of price is much smaller for the lower PSAT group. The parents of higher ability students are therefore more price sensitive.

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Insert Table 4 about here

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Students Results

Among students responding to the survey, 21 per cent can be classified as stayers and another 21 per cent can be identified as movers. For students indicating a preference for private schools, Chicago has the largest percentage of stayers (65 per cent) and San Francisco has the smallest percentage of stayers (26 per cent). Percentages of stayers for all six survey areas are shown in Table 5. Note that the differences between the parents and students results, as shown by city, are considerable. In Chicago, for example, 28 per cent of the parents who prefer private education are stayers, while for students the comparable value is 65 per cent.

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Insert Table 5 about here

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The results shown in Table 6 indicate that for students the probability of shifting to public schools for application purposes increases when concern about price is high. When concern for price is low or medium about 60 per cent of the students stay with private school choices. In contrast, when concern is high only 36 per cent stay. The difference here is 24 per cent, and the effect is just slightly larger for students than for parents.

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Insert Table 6 about here

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That college aptitude is related to the tendencies of students to stay with private schools can be seen in Table 7. In this case, increases in PSAT scores result in increases in the likelihood of applying to private schools exclusively, but the effect is smaller than that of concern about price. College aptitude has a much larger effect for students than it does for parents.

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Insert Table 7 about here

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Table 8 shows that the effect of concern about price varies with aptitude level and that the effect of aptitude is related to level of concern about price. This interaction pattern differs little from that seen for parents (Table 4). Concern about price reduces the probability of staying most when PSAT scores are above 56, and aptitude increases the probability of staying least when price concerns are high. Overall then, the data show a strong effect of concern about price on students' decisions between private and public schools which high college aptitude does not attenuate. We believe this finding to be very important.

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Insert Table 8 about here

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Actual Price Differences

Given that we have identified a group of people who "move" and that their behavior is related to price considerations, it seems reasonable to examine the amounts of money which make the critical difference when application choices between private and public colleges are being weighed. Toward that purpose we calculated the mean cost of the best and choice schools listed by parents and students in both the stayer and mover groups. Table 9 shows the results of a series of calculations based on this additional information.

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Insert Table 9 about here

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Judging from these results, substantial differences exist between the mean prices of the best and choice schools named by movers. Furthermore, while the mean prices of the best schools listed by stayers and movers differ only slightly, the differences between the choice schools of these groups are very large. At the very least, these price comparisons show that movers actually accomplish substantial monetary savings by switching from private to public schools. (Note that this analysis does not involve considerations of net cost after aid. In general, the outcome of an aid application would have been known to very few parents or students at the time our surveys were conducted).

Additional information about the percentages of movers accomplishing various amounts of savings is present in Table 10. Moreover, that table shows that stayers are able to obtain savings by altering their lists of private schools when they make choices for application purposes. Over 25 per cent of the students who are stayers achieve savings of $1155 dollars or more in terms of the mean difference between their best and choice schools. Apparently, there are people who are sensitive to price who manage to stay within the private education sector by choosing to apply to less expensive schools. Certainly, many of the less expensive private schools are also less selective, and it is important to point out that the existence of a strong relation between concern about price and the tendency to move from the most selective to less selective private schools has been documented (Brodigan, Sullivan, Litten, and Morris, 1980).

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Insert Table 10 about here

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Conclusion

The results of the parent and student survey reported here lead to the general conclusion that price is an important determinant of where people choose to apply for college admission. Clearly, a large segment of the higher education market prefers, or thinks highly of, private college education, but is led to apply to one or more public schools, mainly because of concerns about price. These people may be thought of as belonging to a special segment of the market which is especially sensitive to variations in published college prices (i.e., "sticker prices"). This group may be particularly volatile during periods when high inflation rates operate, as they have in recent years.

Although many observers (e.g., Spies) might insist that this conclusion does not apply to high abiltiy students and their parents, our findings argue against that point of view. The effects of concern about price are not attenuated by ability and, in fact increase greatly at higher levels of ability.

As we point out that our conclusions are very different from those presented by Spies, we must also note that numerous differences exist in the procedures and strategies employed in the two studies. One of the most obvious differences is in the index of consumer ability or willingness to pay the costs of higher

education used in the two studies. For this purpose Spies adopted family income, while we studied concern about price. Because concern about price can exist at any level of family income, it can relate to events in the college application decision process in ways that family income cannot. Concern about price is a complicated, global perceptual variable which depends upon the way individuals view their income, their environment, their needs, and the cost of the education they seek.

A second major difference between these two studies is in the dependent variable employed. We assessed the probability of applying exclusively to private schools as a function of several variables among individuals who had already signalled a strong interest in schools of that type, while Spies simply looked at the probability of applying to at least one school (or more than one, in some cases) of a particular type as a function of financial and educational considerations regardless of institutional preference. In effect then, we segmented the higher education consumer population along a dimension of preference which was ignored by Spies.

While considering the major differences in the procedures, methodologies, strategies, findings, and conclusions, of the two studies, it is especially important to point out that the two studies have their most useful applications at different policy issue levels. Although we do not propose that either study be ignored completely by anyone, we suggest that the work of Spies

has special relevance for public policy decisions concerning higher education. His finding, that students from low- and middle-income families are less likely to apply to the most selective institutions than are students from high-income families, certainly supports the idea that public policymakers can do more to improve the access of low- and middle-income students to colleges and universities of this type. On the other hand, the study we conducted has particularly strong implications for policy makers at the local administrative level of private institutions.

To that group we address our final comments; the main implication of our conclusions is that private colleges and universities must realistically assess the effects of the concerns about price held by individuals in their particular market segments as they act to set prices, strengthen academic programs, and avoid extensive cost cuts. Many private schools may want to do everything possible to avoid large price increases in the immediate future in order to minimize the concerns of potential students who are sensitive to price. An important question which this research does not answer, except in a very crude way, is the following one. How much of a difference in price can exist between private and public schools before the move to the public sector is evoked? Among students in our study a difference between preferred best and choice schools of more than 45 per cent accompanied the movement of half of the movers into the public sector.

## References

Brodigan, D., Sullivan, D., Litten, L., and Morris, D. The effect of concern about price on College Choice. Paper presented at the Middle States Regional Assembly of the College Board, Philadelphia, February, 1980.

Chapman, R. G. Pricing policy and the college choice process. Research in higher education, 1979, 10, 37-57.

McPherson, M. S. The demand for higher education in D. W. Breneman and C. E. Finn, Jr. (Eds.), Public policy and private higher education. Washington, D.C.:Brookings Institution, 1978.

Spies, R. R. The future of private colleges. Princeton: Industrial Relations Section, Department of Economics, Princeton University, 1973.

Spies. R. R. The effect of rising costs on college choice. New York: College Entrance Examination Board, 1978.

Sullivan, D., Litten. L., Morris, D., and Brodigan, D. On the structure of the market for higher education in six cities. Paper presented at the Middle States Regional Assembly of the College Board, Philadelphia, February 1980.

Tierney, M. L. Student matriculation decisions and financial aid. Paper presented at the ASHE Annual Meeting, Washington, D.C., 1979.

Footnotes

1. The research reported in this paper was made possible by grants from the Robert Sterling Clark Foundation, New York, New York, and the F. R. Bigelow Foundation of St. Paul, Minnesota.
2. Multiple regression was used to examine the influence of a large number of variables upon college choice behavior. For both parents and students concern about price is a major contributor to multiple correlation coefficients (R) of .48 and .60, respectively. Other variables making important contributions to these values are ones which concern distinct geographic regions of the country (e.g., positive or negative feelings about New England) in the case of parents, and variables representing attitudes toward racial diversity, college size, campus appearence, and careers, for students. PSAT scores contribute little in these regression analyses. (The variance in these scores was constrained by the sampling requirement that combined PSATs be greater than 100). Because the purpose of this paper is to describe relations between financial concerns and application decisions, we concentrate here on the price related variable.
3. Some students who listed only private schools as best indicated a preference for public schools in response to an item inquiring directly about their preference for private or public education. However, further examination revealed that over half

of the students responding in this manner also indicated that there are schools they would like to consider but would not apply to because the tuition and living costs are too high. When asked for the names of these schools, 87 per cent of the students in this group listed a private school first. We take this result to mean that concerns respondents have about price are at least partially responsible for their expressed preference for public schools. This conclusion is supported even more strongly by a similar analysis of the parent survey data.

Table 1

Percentage of stayers among the parents of six cities listing only private schools as "best".

| City | Stayers | n |
|---|---|---|
| Chicago | 28% | 65 |
| Dallas | 32% | 60 |
| Denver | 33% | 76 |
| Minneapolis/St. Paul | 40% | 52 |
| San Francisco | 44% | 34 |
| Washington, D.C. | 69% | 103 |

Table 2

The effect of price considerations upon parents' tendencies to stay with private schools.

| | Importance of Price | | |
|---|---|---|---|
| | Low/Medium (201) | High (189) | Percent Difference |
| Stay | 52% (105) | 34% (64) | -18% |
| Move | 48% (96) | 66% (125) | +18% |

Table 3

The effect of student ability upon parents' tendencies to stay with private schools.

| | Average PSAT Scores | | |
|---|---|---|---|
| | 50-56 (205) | 57+ (185) | Percent Difference |
| Stay | 41%(84) | 46%(85) | +5% |
| Move | 59%(121) | 54%(100) | -5% |

Table 4

Percentage of parents staying as a function of price considerations and college ability.

| | Importance of Price | | |
|---|---|---|---|
| | Low/Medium | High | Percent difference |
| PSAT scores | | | |
| 50-56 | 44% (100) | 38% (105) | - 6% |
| 57+ | 60% (101) | 29% (34) | -31% |
| Percent Difference | +16% | - 9% | |

Table 5

Percentage of stayers among the students of six cities listing only private schools as "best".

| City | Stayers | n |
|---|---|---|
| Chicago | 65% | 81 |
| Dallas | 48% | 86 |
| Denver | 40% | 121 |
| Minneapolis/St. Paul | 53% | 111 |
| San Francisco | 26% | 58 |
| Washington, D.C. | 60% | 157 |

Table 6

The effect of price considerations upon students' tendencies to stay with private schools.

| | Importance of price | | Percent difference |
|---|---|---|---|
| | Low/medium (362) | High (250) | |
| Stay | 60% (219) | 36% (91) | -24% |
| Move | 40% (143) | 64% (159) | +24% |

Table 7

The effect of college ability upon students' tendencies to stay with private schools.

| | PSAT scores | | | | | |
|---|---|---|---|---|---|---|
| | 50-56 | (324) | 57+ | (289) | Percent difference | |
| Stay | 43% | (138) | 60% | (172) | +17% | |
| Move | 57% | (186) | 40% | (117) | -17% | |

Table 8

Percentage of students staying as a function of price considerations and ability.

| | Importance of Price | | |
|---|---|---|---|
| | Low/Medium | High | Percent difference |
| PSAT scores | | | |
| 50-56 | 51% (175) | 33% (148) | -18% |
| 57 + | 70% (187) | 42% (101) | -28% |
| Percent Difference | +19% | + 9% | |

Table 9

Mean costs of schools listed as "best" and "choice" by parents and students who prefer private education.

| | Parents | | Students | |
|---|---|---|---|---|
| | Stayers | Movers | Stayers | Movers |
| Best | $6569 | $6504 | $6421 | $6665 |
| Choice | $5915 | $3937 | $5693 | $3572 |
| Difference | $ 654 | $2567 | $ 728 | $3093 |

Table 10

Distributions of price differences between "best" and "choice" schools for parents and students classified as stayers and movers.

| | Parents | | Students | |
|---|---|---|---|---|
| Percentile | Stayers | Movers | Stayers | Movers |
| 25 | $ 75 | $1585 | $ 11 | $1929 |
| 50 | $ 439 | $2423 | $ 474 | $2978 |
| 75 | $ 968 | $3371 | $1155 | $4341 |
| 100 | $3654 | $5489 | $4247 | $5944 |